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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|-------------------------|------------------|
| 10/693,326 | 10/24/2003 | Blake Lewis | 103.1033.02 | 8241 |
| 22883 | 7590 | 03/16/2006 | | |
| SWERNOFSKY LAW GROUP PC P.O. BOX 390013 MOUNTAIN VIEW, CA 94039-0013 | | | EXAMINER LE, MIRANDA | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2167 | |

DATE MAILED: 03/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/693,326

Applicant(s)

LEWIS ET AL.

Examiner

Miranda Le

Art Unit

2167

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 22-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 22-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. Applicants' Information Disclosure Statement, filed April 09 2004, has been received, entered into the record, and considered. See attached form PTO-1449.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-11, 22-45 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1, 24, 35 define non-statutory processes because as a whole, they merely present an abstract idea without any practical application that produces a useful, concrete and tangible result.

The claimed process, "maintaining a number of unallocated blocks..., receiving a file operation...; computing a number of blocks needed to write the file, subtracting from the number of blocks needed...to obtain a third number of blocks; ...to obtain a fourth number of blocks; and adjusting the number of reserved unallocated blocks by the fourth number" lacks of useful results because it fails to efficiently reflect the described practical utility (no useful result). Even though managing a file system for a file server could reasonably be considered a tangible result, the body of claims 1, 24, 35 do not appear to actually support the preamble by including a step or steps which accomplish that act.

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Claims 2-11, 22-23, 25-34, 36-45 suffer from deficiencies similar to their respective base claims, as noted above.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 24, 35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter applicant regards as the invention.

Claims 1, 24, 35 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: the first number of blocks.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1, 4, 6-10, 24, 27, 29-33, 35, 38, 40-44 are rejected under 35 U.S.C.

103(a) as being unpatentable over Schmuck et al. (US Patent No. 5,956,734, in view of Nazari et al. (US Patent No 6,516,344).

As to claim 1, 24, 35, Schmuck teaches a method of managing a file system for a file server, comprising the step of:

maintaining a number of unallocated blocks (i.e. number of free blocks, col. 19, line 16) reserved for files of the file system (col. 19, lines 10-30);

receiving a file operation that signals a reservation operation for a file having a file size (i.e. write action, col. 4, line 12) (col. 4, lines 9-34);

computing a number of blocks needed to write the file (i.e. allocate disk storage only for the areas of a file to which data was written, col. 8, lines 36-49);

adjusting the number of reserved unallocated blocks (i.e. how much free space remains in each region, col. 19, lines 10-30).

Schmuck does not specifically teach the following limitation. However, Nazari teaches:

subtracting from the number of blocks needed to write the file a second number of blocks already allocated for the file (i.e. the shaded portion of the file 300, See Fig. 3) to obtain a third number of blocks (col. 4, line 67 to col. 5, line 3);

subtracting from the third number of blocks a number of delayed allocated blocks (i.e. unallocated region 303, See Fig. 3) for the file obtain a fourth number of blocks (col. 4, line 67 to col. 5, line 3);

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the cited references because Nazari's teachings of "subtracting from the number of blocks of blocks needed to write the file a second number of blocks already allocated for the file to obtain a third number of blocks; and subtracting from the third number of blocks a number of delayed allocated blocks for the file to obtain a fourth number of blocks" would have allowed Nazari's users to ensure that storage device contains enough storage for the write operation.

As to claims 4, 27, 38, Schmuck teaches the file operation that signals the reservation operation includes a parameter that specifies the file size (col. 4, lines 9-34).

As to claims 6, 29, 40, Schmuck teaches setting a flag in an inode for the file that indicates blocks have been reserved for the file (col. 29, lines 14-63).

As to claim 7, 30, 41, Nazari teaches the step of checking that a number of available blocks in the file system is greater than the fourth number of blocks, wherein an error is returned in a case that the number of available blocks is less than the fourth number of blocks (i.e. allocating storage for the write operation ensures that storage device 130 contains enough storage for the write operation, col. 6, lines 3-5).

As to claim 8, 31, 42, Nazari teaches the number of available blocks in the file system is determined by subtracting a number of allocated blocks (i.e. the shaded portion of the file 300, Fig. 3), a number of cached unallocated blocks (i.e. unallocated region 303, Fig. 3), and a number of reserved blocks from a total number of blocks in the file system, and adding a number of reserved cached unallocated blocks (col. 4, line 67 to col. 5, line 3).

As to claims 9, 32, 43, Schmuck teaches the step of checking that the third number of blocks does not exceed a remainder of a quota for an owner of the file, wherein an error is returned in a case that the third number of blocks exceeds the remainder of the quota (col. 44, lines 1-50).

As to claims 10, 33, 44, Schmuck teaches the step of releasing reservation of blocks as blocks are written to storage (col. 15, lines 31-67).

6. Claims 2, 5, 25, 28, 36, 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmuck et al. (US Patent No. 5,956,734, in view of Nazari et al. (US Patent No 6,516,344), and further in view of in view of Hitz et al. (US Patent No. 5,963,962).

As to claims 2, 25, 36, Schmuck and Nazari do not specifically teach the file system uses write anywhere file system layout.

However, Hitz teaches this limitation at col. 3, line 65 to col. 4, line 12.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the cited references because Hitz's teaching of having the file system uses write anywhere file system layout would have allowed Schmuck and Nazari users to not overwrite data on disks so that write performance can be optimized.

As to claims 5, 28, 39, Schmuck and Nazari do not expressly teach determining a total number of direct and indirect blocks needed to accommodate the file size.

However, Hitz teaches this limitation at col. 10, line 39-53.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the cited references because Hitz's teaching of determining a total

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number of direct and indirect blocks needed to accommodate the file size would have allowed Schmuck and Nazari users to not overwrite data on disks so that write performance can be optimized.

7. Claims 3, 26, 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmuck et al. (US Patent No. 5,956,734, in view of Nazari et al. (US Patent No. 6,516,344), and further in view of Keller et al. (US Patent No. 6,473,849).

As to claims 3, 26, 37, Schmuck and Nazari do not explicitly teach the file operation that signals the reservation is a zero length write request (col. 12, lines 37-54).

However, Keller teaches the file size for writing (i.e. A Write (Size) command, at col. 10, line 30.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the cited references in order to write a node identification data into the lock resource register within the lock requesting processing node when ready to release shared system resources to allow the lock requesting node to establish lock ownership.

8. Claims 11, 22, 23, 34, 45 rejected under 35 U.S.C. 103(a) as being unpatentable over Schmuck et al. (US Patent No. 5,956,734, in view of Nazari et al. (US Patent No. 6,516,344), and further in view of Bonwick (US Patent No. 6,725,244).

As to claims 11, 34, 45, Schmuck and Nazari do not specifically teach the step of decrementing the number of a reserved unallocated blocks by a number of released blocks.

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However, Bonwick teaches this limitation at col. 6, line 43 to col. 7, line 4.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the cited references because appropriate file descriptors to be allocated can in general be located (i.e., via searching) much more efficiently than conventionally achieved, and the approach utilized is well suited for use with operating systems that support large number of file descriptors (Bonwick, col. 3, lines 4-12).

As per claim 22, Schmuck teaches:

 caching one or more blocks of the file in a buffer at col. 16, lines 29-40.

 writing the one or more blocks to storage at col. 16, lines 29-40, col. 17, lines 1-58.

Schmuck and Nazari do not expressly teach decrementing the number of unallocated blocks by the number of blocks written to the storage.

Bonwick teaches this limitation at col. 6, line 43 to col. 7, line 4.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the cited references because appropriate file descriptors to be allocated can in general be located (i.e., via searching) much more efficiently than conventionally achieved, and the approach utilized is well suited for use with operating systems that support large number of file descriptors (Bonwick, col. 3, lines 4-12).

As per claim 23, Schmuck teaches setting a caching flag for each block cached in the buffer at col. 29, lines 14-63.

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Conclusion

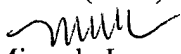
9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Miranda Le whose telephone number is (571) 272-4112. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene, can be reached on (571) 272-4107. The fax number to this Art Unit is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Miranda Le
March 08, 2006


CHETA ROBINSON
PRIMARY EXAMINER